

TMDL 101

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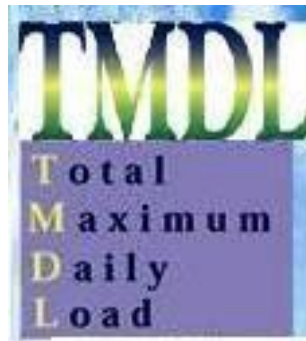


What do TMDLs have to do with icebergs?



Agenda

- Provide information about the TMDL program and why TMDLs are required
- Explain the different components of a TMDL
- Explain what a TMDL means



Assessments

- KDOW examines streams/lakes and determines if they support their designated uses. If a stream or lake is determined not to meet a designated use, it is considered to be impaired.



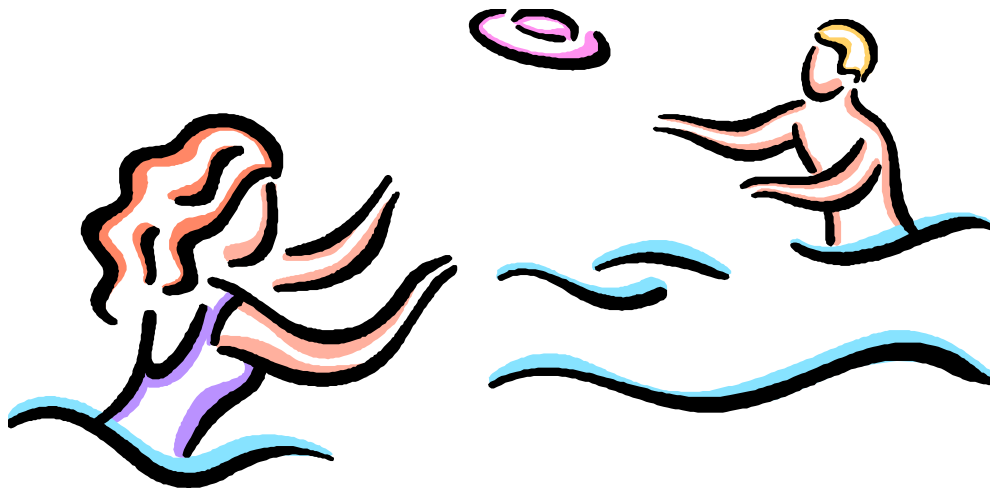
Water Quality Standards

- Water Quality Standards consist of a designated use and criteria to protect the designated use
- Designated uses include things such as:
 - Primary and Secondary Contact Recreation
 - Warm Water Aquatic Habitat



Water Quality Standards

The Contact Recreation uses protect people recreating in and around waters from disease causing organisms. If the criteria are met, the risk of disease is lowered, but not eliminated.



Water Quality Standards

- The Warm Water Aquatic Life standards* protect organisms living in the water.
- * A presentation on the translation of the narrative Aquatic Life criteria will be given later tonight.



The “TMDL”

- A **Total Maximum Daily Load** is a calculation of the **amount** of a pollutant that can be allowed into a waterbody and still have it **meet water quality standards**.



Clean Water Act-Section 303(d)

- Total Maximum Daily Loads (TMDLs) are part of the 1972 CWA amendments
- Section 303(d)
 - States must develop a 303(d) list of waterbodies not meeting water quality standards and that require a TMDL
 - Once a TMDL is developed, the waterbody is removed from the 303(d) list but remains on the 305(b) list.
 - States must develop a Total Maximum Daily Load that will allow the waterbody to attain water quality standards.



Reporting

- A report is developed indicating the status of assessed waterbodies. For example, portions of a waterbody can be fully supporting of all designated uses while other portions may be impaired by one or more pollutants.



Reporting

- This report is called the Integrated Report.
- The Integrated Report indicates what designated uses were assessed, the results of that assessment, and the pollutant(s) causing an impairment.

www.water.ky.gov/waterquality

Draft
2010 Integrated Report to Congress on the Condition of
Water Resources in Kentucky

Volume II. 303(d) List of Surface Waters



Kentucky Energy and
Environment Cabinet
Division of Water
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Basic TMDL Equation

TMDL =

Σ Wasteload Allocations (WLA) +

Σ Load Allocations (LA) +

Margin of Safety (MOS)

TMDL Calculation

- Limits are expressed in units of amount per unit time, for example **colonies/day** or **pounds/day** = “Daily Load” or
- Expressed as a **percent reduction** required to bring the existing pollutant amount to the allowable amount.



TMDL Limits

- There are two types of limits for the pollutant(s) in a TMDL document:
- **Wasteload Allocations and**
- **Load Allocations.**

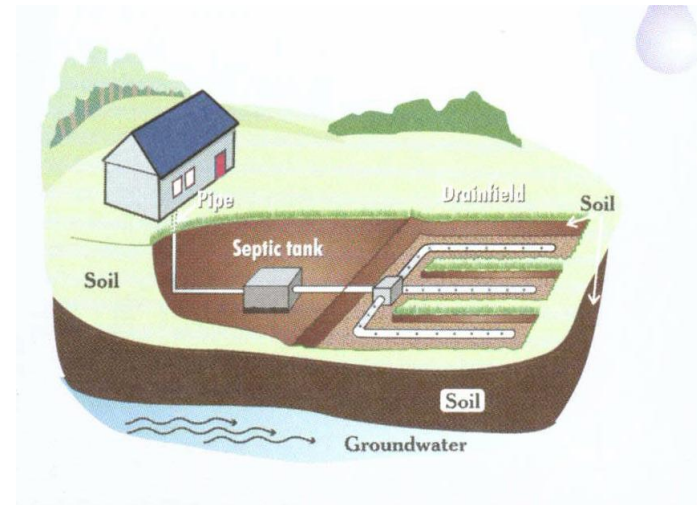
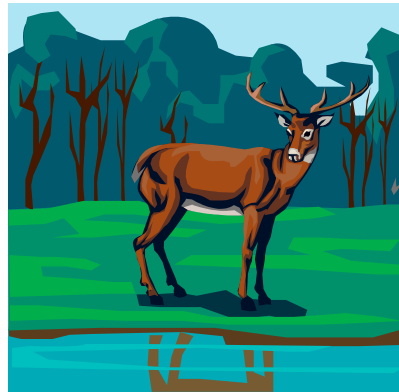
TMDL Limits – WLA

- **Wasteload Allocations (WLAs)** place **limits** on **regulated sources** (KPDES permitted sources) such as Waste Water Treatment Plants or Municipal Separate Storm Sewer Systems (MS4s).



TMDL Limits - LA

- **Load Allocations (LA)** place **limits** on **non-regulated sources** (a KPDES permit is not required). This includes natural background levels and many nonpoint sources of the pollutant.



Margin of Safety

- A **Margin of Safety** (MOS) is also included, **reserving** some of the **limit** due to **uncertainty** in the calculations of allowable limits or in reductions required.

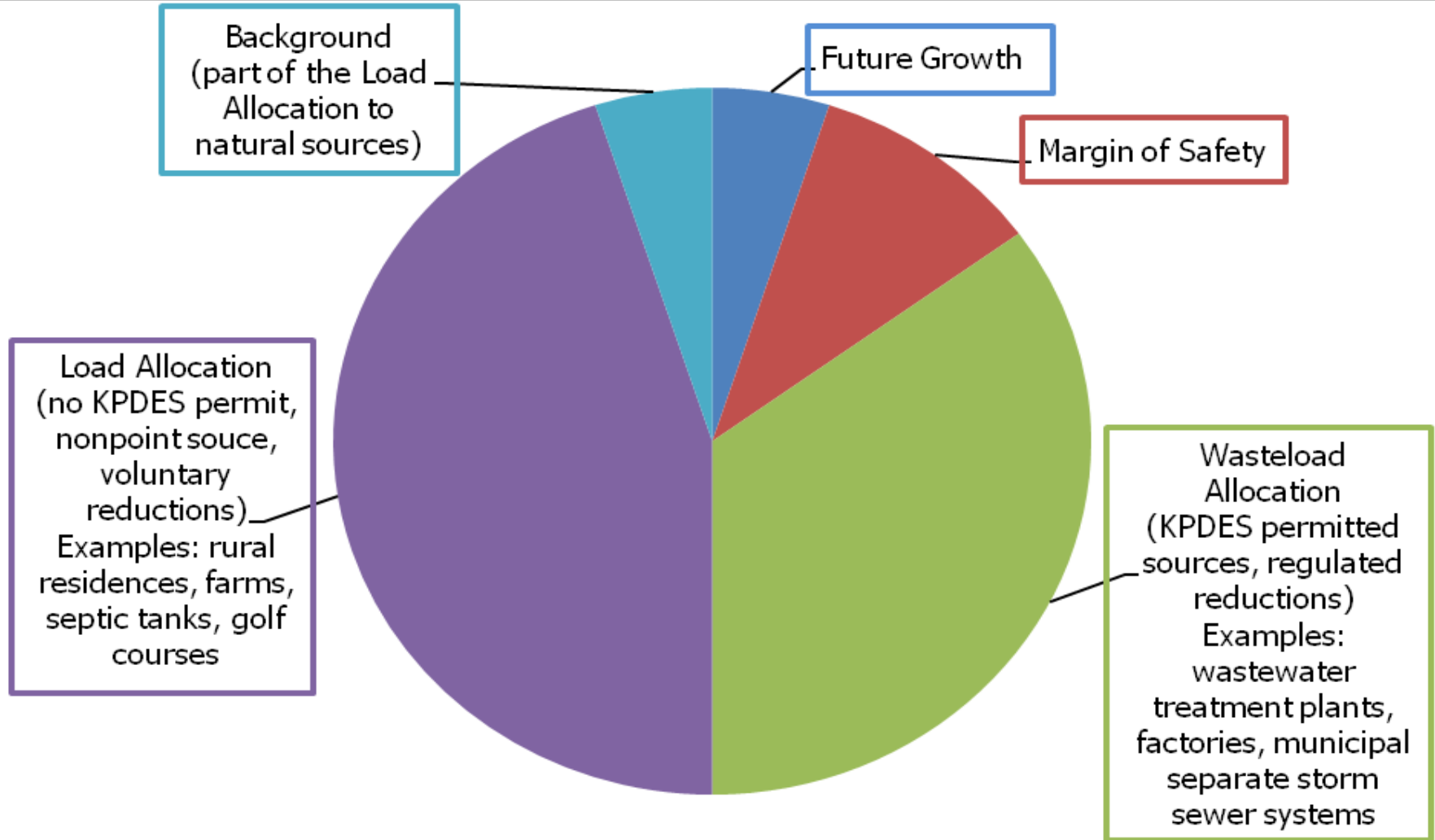


Future Growth

- A portion of the **limits** may be **reserved** for **future growth**; for example, growth of a city or expansion of a wastewater treatment facility.
- Future growth can be part of the TMDL scenarios that are run.



TMDL Allocation Pie



Summary of TMDL Components

- TMDLs are allowable loadings of a pollutant
- $\text{TMDL} = \sum \text{WLA} + \sum \text{LA} + \text{MOS} + \text{Future Growth}$
(optional)

What Do TMDLs Mean?

- The **TMDL** identifies the **allowable** pollutant **load** and **divides** this allowable amount **to sources**.
- The **TMDL** does **not** impose a **new regulation**:
 - The requirement to develop TMDLs and set Wasteload and Load allocations exist in the Clean Water Act
 - Kentucky water quality standards set pollutant concentrations or desired conditions

What Do TMDLs Mean?

- The **goal** is to **restore** the **impaired waters** to their designated uses.
- The Division of Water can **modify KPDES permits** such that the **Wasteload Allocations** will be met.
- Implementation of **Load Allocations (no permits/nonpoint sources)** is not a regulatory process; rather a **cooperative/voluntary effort** sometimes facilitated by a local stakeholder-based planning process.

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